

REMARKS

Reconsideration of the above-identified application is respectfully requested. Claims 2-7, 10-11, and 13-18 remain in this application. Claims 1, 8-9, and 12 have been canceled. Claims 2-6, 10, and 11 have been amended and claims 13-18 have been added to more particularly point out and distinctly claim the subject matter that Applicants regard as their invention.

I. Claim Rejections – 35 U.S.C. § 102(e)

Independent claim 7 and dependent claims 2-6 and 10-11 were rejected under 35 U.S.C. § 102(e) as anticipated by U.S. Patent 6,274,914 to Park.

Applicants respectfully submit that Park does not anticipate claims 2-7, 10, or 11. To be anticipating, a reference must disclose every element of the claims. *Scripps Clinic & Res. Found. v. Genentech, Inc.*, 927 F.2d 1565, 1576 (Fed. Cir. 1991); *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236 (Fed. Cir. 1989). If the reference lacks any claimed element, there is no anticipation. *Kloster Speedsteel AB v. Crucible Inc.*, 793 F.2d 1565, 1571 (Fed. Cir. 1986).

Park does not disclose “selecting a maximum ionizing radiation dose for operation of said bulk CMOS or NMOS device” as recited in claim 7. The Office Action does not even address this feature. Park is entirely silent regarding a radiation dose.

Nor does Park disclose the step of “determining and applying said negative back bias to said substrate of NMOS components of said bulk CMOS or NMOS device, wherein said negative back bias is sufficient to essentially eliminate leakage currents due to total dose radiation in said field oxide region of said CMOS or NMOS device thereby providing hardness against said maximum ionizing radiation dose” as also recited in independent claim 7. To the extent that Park may disclose a negative voltage source, there is no indication in Park that any

applied back bias would be sufficient to essentially eliminate leakage currents due to total radiation doses in the field oxide region. Park is entirely silent regarding leakage currents due to total radiation doses in the field oxide region.

Therefore, Park cannot anticipate claims 2-7, 10, or 11.

Although claims 10 and 11 are believed to be allowable over Park for at least the reasons discussed above in connection with claim 7, a few comments are provided regarding these claims to expedite prosecution. Claim 10 recites that the device has a threshold voltage within a selected operating range while the steady negative back bias is applied. Park does not even mention such a threshold voltage. Nor does Park indicate that the device has a threshold voltage between 0 V and 0.8 V, as set forth in claim 11. Accordingly, Park cannot anticipate claims 10 and 11 for at least these additional reasons.

II. Claim Rejections – 35 U.S.C. § 103(a)

Although independent claims 7 and dependent claims 2-6 and 10-11 were also rejected under 35 U.S.C. § 103(a) as obvious over U.S. Patent 5,422,507 to Wanlass at page 2 of the Office Action, the Office Action also asserts that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Park by having a negative voltage source as taught by Wanlass. Applicants respectfully request clarification of the grounds for rejection.

Applicants respectfully submit that claims 2-7, 10, and 11 are not obvious over Park in view of Wanlass. To establish a prima facie case of obviousness, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981 (C.C.P.A. 1979); M.P.E.P. 2143.03.

Wanlass does not teach or disclose “determining and applying said negative back bias to said substrate of NMOS components of said bulk CMOS or NMOS device, wherein said negative back bias is sufficient to essentially eliminate leakage currents due to total dose radiation in said field oxide region of said CMOS or NMOS device thereby providing hardness against said maximum ionizing radiation dose” as recited in independent claim 7. Wanlass increases the threshold voltage of the field oxide region to prevent adjacent transistors from affecting each other. The problem addressed in the present application is that after irradiation, the field oxide region surrounding a transistor begins to conduct current from the source to the drain of the same transistor. Since Wanlass is not concerned about and does not discuss radiation effects, Wanlass cannot provide any guidance on how much back bias is sufficient to eliminate leakage currents due to total dose radiation in the field oxide region.

Since the combination of Park and Wanlass does not teach or suggest every element of independent claim 7, Applicants respectfully submit that claims 7, 10, and 11 are not obvious over Park in view of Wanlass.

Claims 2-4 have been amended to depend from claim 7 and are allowable for at least the same reasons that claim 7 is allowable.

III. New claims

New claims 13-18 are presented to set forth additional subject matter to which the Applicants are believed to be entitled. Examination and allowance of claims 13-18 is respectfully submitted.

Application Serial No.: 09/614,682
Applicant(s): Summers et al.

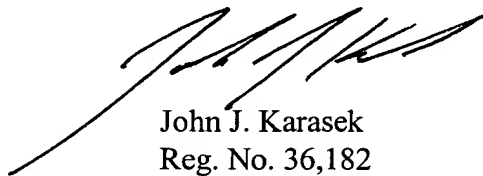
Docket No.: N.C. 79,812

IV. PTO-892

It appears that a typographical error is present in the document number for U.S. Patent No. 5,422,507. In order to ensure an accurate record of which documents were actually considered, the examiner is requested to correct the PTO-892 that accompanied the Office Action mailed on September 2, 2003.

In view of the foregoing, it is respectfully submitted that this application is ready for allowance. Applicants respectfully request that a timely Notice of Allowance be issued in this case. Kindly charge any additional fees due, or credit overpayment of fees, to Deposit Account No. 50-0281.

Respectfully submitted,



John J. Karasek
Reg. No. 36,182
Associate Counsel (Patents)
Naval Research Laboratory
4555 Overlook Avenue, S.W.
Washington, D.C. 20375-5325
(202) 404-1552

Prepared by:
Rebecca L. Forman
Reg. No. 50,452
(202) 404-1554